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CLAIMS

1. Method for the detection and/or the quantification of a target molecule present in a sample, preferably a biological sample, comprising the steps of :
- allowing a binding between said target molecule and a capture molecule fixed upon a side of the surface of a solid support being a disc comprising registered data, said binding resulting in a signal, the registered data being located on areas separated from the areas dedicated to the reading of the signal resulting from the binding of a target molecule and a capture molecule,
  - allowing a detection and/or quantification of said signal with the proviso that said signal is not obtained through cleavage of capture molecule, and
  - reading the registered information and reading the signal resulting from the binding between a target molecule and a capture molecule said readings being done by two different reading devices.

2. Method according to claim 1, characterized in that the capture and the target molecules are nucleotide sequences.

3. Method according to claim 1, characterized in that the capture and target molecules are respectively either antigens or antibodies.

4. Method according to claim 1, characterized in that the capture and target molecules are respectively either receptors or ligands of said receptors.

5. Method according to any one of the preceding claims, characterized in that the detection and/or the quantification of the signal is obtained by reflection, absorption or diffraction of a light beam,

preferably a laser beam, or variation of an electromagnetic field.

6. Method according to any one of the preceding claims, characterized in that the detection  
5 and/or the quantification of the signal is obtained by a fluorescent light emission after excitation of the bound target and capture molecules by a light beam.

7. Method according to any one of the claims  
1 to 4, characterized in that the detection and/or the  
10 quantification of the signal is obtained by a direct emission of a light beam, a radiation or a magnetic field, which is a result of the binding between the target molecule and its capture molecule.

8. Method according to claim 6 or 7,  
15 characterized in that the emission of a light beam is generated by a bound molecule which is selected from the group consisting of molecules having chemo, bio, fluoro, radioactivity and/or electroluminescence light or radiation.

9. Method according to any one of the preceding claims, characterized in that the binding between the target and the capture molecules generates a precipitate, preferably an opaque or magnetic precipitate such as a deposit of a colloidal metal reagent, preferably  
20 a silver precipitate, upon the surface of the disc and/or the corrosion of one or more layer(s) of the surface of the disc.

10. Method according to any one of the preceding claims, characterized in that the binding between  
30 the target and the non-cleavable capture molecules allows the fixation of one or more molecule(s) used in the detection and/or the quantification of a signal which results from said binding.

11. Method according to claim 10,  
35 characterized in that the binding between the target and

the non-cleavable capture molecule allows the fixation of one or more microbeads or magnetic particles used in the detection and/or the quantification of a signal that results from said binding.

- 5                   12. Method according to any one of the preceding claims, characterized in that the signal is obtained when the disc is rotating upon its axis (A).
13. Method according to any one of the preceding claims, characterized in that the registered data  
10 of the disc are binary data, preferably grooved binary data.
14. Method according to any one of the preceding claims, characterized in that the disc is a compact-disc.
- 15               15. Method according to any one of the preceding claims, characterized in that the registered data are data used in the treatment and the interpretation of the signal resulting from the binding between the capture and the target molecules.
- 20               16. Method according to any one of the preceding claims, characterized in that the disc comprises micro-channels connected and in fluidic contact.
17. Disc comprising registered data, characterized in that it further comprises, fixed upon a  
25 side of its surface, in dedicated areas different from the areas comprising registered data, non-cleavable capture molecules that allow a binding with target molecules to be detected and/or quantified.
18. Disc according to claim 17, characterized  
30 in that the non-cleavable capture and/or the target molecules are selected from the group consisting of nucleic acid molecules, preferably nucleotide sequences, antigens, antibodies, receptors, ligands of receptors, peptidic or proteinic molecules, lipids, saccharides, haptens,  
35 fluorophores, chromophores, catalysts, new macromolecules

obtained by combinatorial chemistry or a combination thereof.

19. Disc according to claim 17 or 18, characterized in that the registered data of the disc are  
5 binary data, preferably grooved binary data.

20. Disc according to claim 19, characterized in that it is a compact-disc.

21. Disc according to any one of the claims  
any of the claims 17 to 21, characterized in that it  
10 comprises microchannels connected and in fluidic contact.

22. Preparation process of the disc according to any one of the claims 17 to 21, which comprises the step of a fixation upon a side of the surface of a disc comprising registered data, of non-cleavable capture  
15 molecules at specific dedicated areas different from the areas comprising registered data, through a photoactivation of said capture molecules.

23. Process according to claim 22, characterized in that the fixation of non-cleavable capture  
20 molecules is obtained through a covalent link between an extremity of the capture molecules and the surface layer of the disc.

24. Process according to claim 22 or 23, characterized in that the disc surface comprises a  
25 protective layer, preferably made of organic compound, which allows or improves the protection and stabilization of the non-cleavable capture molecule and/or the protection, stabilization and/or detection of the binding between the target molecule and its non-cleavable capture  
30 molecule.

25. Diagnostic kit comprising the disc according to any one of the claims 17 to 21 and the reactants allowing the binding between a target molecule and its capture molecule and possibly the reactants

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26. Detection and/or reading device which allows the detection and/or the quantification of the signal which results from the binding between a target molecule present in a sample and its capture molecule, and which comprises the disc according to any one of the claims 17 to 21 or the kit according to claim 25, and means for the detection and/or quantification of said signal.

10           27. Detection and/or reading device according  
to claim 26, being a reading compact-disc device.

28. Detection and/or reading device according to claim 27, characterized in that it comprises a first reading head for the reading of registered data upon the disc and a second reading head for the detection and/or the quantification of the signal which results from the binding between target molecule and its capture molecule.

29. Detection and/or reading device according to any one of the claims 26 to 28, which comprises additional means for the purification of the target molecule, the specific cleavage of the target molecule, the possible genetic amplification of said target molecule within an integrated detection and/or reading device.

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